

CLAIMS

1. An electromagnetic relay (1) comprising:

· a base comprising at least one printed circuit card (2), which card has at least two conductor tracks (4a; 4b; 4c) forming respective switch accesses;

5 · at least one conductive contact element (10) movable between a closed position in which it presses against said two conductor tracks in order to establish an electrical connection between them, and an open
10 position in which the contact element is spaced apart from at least one of said two tracks;

· a contact element support (13), the support comprising at least one flexible arm (21) carrying the contact element (10); and

15 · an actuator (3) mounted on the printed circuit card, and comprising at least one coil (30) constituted by a winding of electric wires;

the relay being characterized by the fact that the support (13) includes at least one portion, in particular
20 a portion in the form of a tongue (25), on which a moving member of the actuator acts in order to move said flexible arm (21) of the support.

2. A relay according to claim 1, characterized by the
25 fact that the support (13) is made of a conductive material and carries an insulating block (11) to insulate the contact element (10) from the support (13).

3. A relay according to claim 2, characterized by the
30 fact that the contact element (10) comprises a conductive layer deposited on a first face of the insulating block (11), which block is secured to the support (13) via a second face that is opposite from the first face.

35 4. A relay according to claim 2, characterized by the fact that the contact element (10) is constituted by a conductive blade (43) and by the fact that the insulating

block (44) is obtained by overmolding on the support and the blade.

5 5. A relay according to claim 1, characterized by the fact that the support (13) is made of an insulating material.

10 6. A relay according to claim 5, characterized by the fact that the contact element (10) comprises a conductive layer (45) deposited on a region of the support (13).

15 7. A relay according to any preceding claim, characterized by the fact that the support (13) includes at least one portion (14) that is rigidly secured to a stationary portion (15) of the relay.

20 8. A relay according to any preceding claim, characterized by the fact that the support (13) carries a plurality of contact elements (10), each associated with two switch accesses of the printed circuit card.

25 9. A relay according to any preceding claim, characterized by the fact that the moving member comprises an armature (31) suitable for pivoting about an axis (Y) parallel to the plane of the printed circuit card.

30 10. A relay according to any preceding claim, characterized by the fact that the support (13) is made as a single piece.

35 11. A relay according to any preceding claim, characterized by the fact that the printed circuit card (2) has at least one electrical power supply conductor track (8a-8d) electrically connected to said at least one coil (30).

12. A relay according to claim 11, characterized by the fact that said connection is implemented via a connection member (39) fastened in a hole (9) in the printed circuit card.

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13. A relay according to claim 12, characterized by the fact that the connection member (39) comprises a pin with a slot (40) in which a terminal (36) of the coil (30) can engage.

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14. A relay according to any preceding claim, characterized by the fact that the base comprises a plurality of printed circuit cards (61) that are stacked on one another and fastened together.

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15. A relay according to claim 14, characterized by the fact that the conductor tracks (62) of the card are interconnected by plated-through holes (63) made through the thickness of at least one of the cards.

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16. A relay according to any preceding claim, characterized by the fact that at least one of the conductor tracks (4a-4c; 8a-8d) is connected to a conductive strip (5) extending across the thickness of the printed circuit card.

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17. A relay according to claim 16, characterized by the fact that said conductive strip (5) is made on an edge face of the printed circuit card (2), being constituted in particular by a metal-plated surface in a setback (6) in the edge face of the printed circuit card.

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18. A relay according to claim 16, characterized by the fact that the conductive strip (5) is constituted by the metal-plated wall of a hole in the printed circuit card.

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19. A relay according to any one of claims 1 to 16,
characterized by the fact that at least one of the
conductor tracks (4a-4c; 8a-8d) is connected to a socket
(70) enabling a coaxial cable or a coaxial connector to
5 be connected thereto.

20. A relay according to any preceding claim,
characterized by the fact that the printed circuit card
(2) is made on the basis of glass epoxy or of ceramic.

10 21. A relay according to any preceding claim,
characterized by the fact that it includes a cover (40)
secured to the printed circuit card, in particular by
adhesive.

15 22. A relay according to any preceding claim,
characterized by the fact that the coil (30) is separate
from the card (2).

20 23. A method of manufacturing an electromagnetic relay as
defined in any preceding claim, the base comprising a
plurality of printed circuit cards that are stacked on
one another and fastened together, the method being
characterized by the fact that it comprises the following
25 steps:

- cutting out a plurality of printed circuit cards;
- etching conductor tracks on the cards;
- stacking the printed circuit cards; and
- firing the stack of cards.